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VA

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1. A system for polishing one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising (i) a liquid carrier, (ii) at least one oxidizing agent, (iii) at least one polishing additive that increases the rate at which the system polishes at least one layer of the substrate, (iv) at least one stopping compound with a polishing selectivity of the first metal layer:second layer of at least about 30:1, wherein the stopping compound is a cationically charged nitrogen containing compound selected from the group consisting of a polyetheramine, polyethylenimine, N<sub>4</sub>-amino(N,N'-bis-[3-aminopropyl]ethylenediamine), 4,7,10-trioxatridecane-1,13-diamine, 3,3-dimethyl-4,4-diaminodicyclohexylmethane, 2-phenylethylamine, N,N-dimethyldipropylenetriamine, 3-[2-methoxyethoxy]propylamine, dimethylaminopropylamine, 1,4-bis(3-aminopropyl)piperazine, isophoronediamine, hexamethylenediamine, cyclohexyl-1,3-propanediamine, thiomine, (aminopropyl)-1,3-propanediamine, tetraethylenepentamine, tetramethylbutanediamine, propylamine, diaminopropanol, aminobutanol, (2-aminoethoxy)ethanol, and mixtures thereof, and (v) a polishing pad and/or an abrasive.
2. The system of claim 1, wherein the liquid carrier is a nonaqueous solvent.
3. The system of claim 1, wherein the liquid carrier is water.
4. The system of claim 3, wherein the system comprises an abrasive suspended in the liquid carrier.
5. The system of claim 3, wherein the abrasive is fixed on the polishing pad.
6. The system of claim 3, wherein no abrasive is present in the system, and the polishing pad is a non-abrasive containing pad.

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Claims 7-10 are canceled.

11. The system of claim 3, wherein at least one stopping compound is present in the liquid carrier in a concentration of about 5 wt.% or less.
12. The system of claim 11, wherein at least one stopping compound is present in the liquid carrier in a concentration of about 3 wt.% or less.
13. The system of claim 3, wherein at least one polishing additive is selected from the group consisting of a phosphorous-containing compound, a nitrogen-containing compound, a sulfur-containing compound, a carboxylic acid, and mixtures thereof.
14. The system of claim 3, wherein the system comprises at least one stopping compound comprising a polyethylenimine and at least one polishing additive selected from the group consisting of di-carboxylic acids, tri-carboxylic acids, poly-carboxylic acids, pyrophosphates, tri-phosphates, condensed phosphates, di-phosphonic acids, tri-phosphonic acids, poly-phosphonic acids, and mixtures thereof.
15. The system of claim 14, wherein at least one oxidizing agent is a peroxide, and wherein the system further comprises at least one passivation film forming agent comprising one or more 5-6 member heterocyclic nitrogen-containing rings.
16. The system of claim 3, wherein the system comprises at least one stopping compound comprising two or more amine groups and at least one polishing additive selected from the group consisting of di-carboxylic acids, tri-carboxylic acids, poly-carboxylic acids, pyrophosphates, tri-phosphates, condensed phosphates, di-phosphonic acids, tri-phosphonic acids, poly-phosphonic acids, and mixtures thereof.
17. The system of claim 16, wherein the system comprises at least one stopping compound comprising two or more primary amine groups and at least one polishing additive

selected from the group consisting of di-carboxylic acids, tri-carboxylic acids, poly-carboxylic acids, pyrophosphates, tri-phosphates, condensed phosphates, di-phosphonic acids, tri-phosphonic acids, poly-phosphonic acids, and mixtures thereof.

18. The system of claim 17, wherein at least one stopping compound comprises two or more primary amine groups and at least one polishing additive is selected from the group consisting of di-carboxylic acids, tri-carboxylic acids, poly-carboxylic acids, and mixtures thereof.

19. The system of claim 18, wherein at least one oxidizing agent is a peroxide, and wherein the system further comprises at least one passivation film forming agent comprising one or more 5-6 member heterocyclic nitrogen-containing rings.

20. The system of claim 17, wherein at least one stopping compound comprises two or more primary amine groups and at least one polishing additive is selected from the group consisting of di-phosphonic acids, tri-phosphonic acids, poly-phosphonic acids, and mixtures thereof.

21. The system of claim 20, wherein at least one oxidizing agent is a peroxide, and wherein the system further comprises at least one passivation film forming agent comprising one or more 5-6 member heterocyclic nitrogen-containing rings.

22. The system of claim 16, wherein at least one stopping compound has a molecular weight greater than about 100.

23. The system of claim 16, wherein at least one stopping compound comprises an aminopropyl group.

24. The system of claim 16, wherein at least one stopping compound comprises three or more carbon atoms.

25. The system of claim 3, wherein the system comprises a peroxide, aminotri(methylenephosphonic acid), and 1,4-bis(3-aminopropyl)piperazine.

26. The system of claim 3, wherein the system comprises a peroxide, tartaric acid, and a polyethylenimine.

27. The system of claim 3, wherein the system further comprises at least one polymeric compound that reduces the polishing rate of at least one layer associated with the substrate.

28. The system of claim 3, wherein the system further comprises at least one passivation film forming agent.

29. The system of claim 3, wherein the abrasive is a metal oxide abrasive.

30. The system of claim 29, wherein the abrasive is selected from the group consisting of alumina, ceria, germania, silica, titania, zirconia, and coformed products thereof, and mixtures thereof.

31. The system of claim 30, wherein the abrasive is alumina.

Claims 32-35 are canceled.

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36. A composition for polishing one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising (i) liquid carrier, (ii) at least one oxidizing agent, (iii) at least one polishing additive that increases the rate at which the system polishes at least one layer of the substrate, and (iv) at least one stopping compound with a polishing selectivity of the first metal layer:second layer of at least about 30:1, wherein the stopping compound is a cationically charged nitrogen containing compound selected from the group consisting of a polyetheramine, polyethylenimine, N<sub>4</sub>-amino(N,N'-bis-[3-aminopropyl]ethylenediamine), 4,7,10-trioxatridecane-1,13-diamine, 3,3-dimethyl-4,4-diaminodicyclohexylmethane, 2-phenylethylamine, N,N-dimethyldipropylenetriamine, 3-[2-methoxyethoxy]propylamine, dimethylaminopropylamine, 1,4-bis(3-aminopropyl)piperazine, isophoronediamine, hexamethylenediamine, cyclohexyl-1,3-propanediamine, thiomine, (aminopropyl)-1,3-propanediamine, tetraethylenepentamine, tetramethylbutanediamine, propylamine, diaminopropanol, aminobutanol, (2-aminoethoxy)ethanol, and mixtures thereof, to be used with a polishing pad and/or an abrasive.

37. The composition of claim 36, wherein at least one stopping compound comprises a polyethylenimine and at least one polishing additive is selected from the group consisting of di-carboxylic acids, tri-carboxylic acids, poly-carboxylic acids, pyrophosphates,

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tri-phosphates, condensed phosphates, di-phosphonic acids, tri-phosphonic acids, poly-phosphonic acids, and mixtures thereof.

38. The composition of claim 36, wherein at least one stopping compound comprises two or more amine groups and at least one polishing additive is selected from the group consisting of di-carboxylic acids, tri-carboxylic acids, poly-carboxylic acids, pyrophosphates, tri-phosphates, condensed phosphates, di-phosphonic acids, tri-phosphonic acids, poly-phosphonic acids, and mixtures thereof.

39. The composition of claim 38, wherein at least one stopping compound comprises two or more primary amine groups and at least one polishing additive is selected from the group consisting of di-carboxylic acids, tri-carboxylic acids, poly-carboxylic acids, pyrophosphates, tri-phosphates, condensed phosphates, di-phosphonic acids, tri-phosphonic acids, poly-phosphonic acids, and mixtures thereof.

40. The composition of claim 39, wherein at least one stopping compound comprises two or more primary amine groups and at least one polishing additive is selected from the group consisting of di-carboxylic acids, tri-carboxylic acids, poly-carboxylic acids, and mixtures thereof.

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41. The composition of claim 39, wherein at least one stopping compound comprises two or more primary amine groups and at least one polishing additive is selected from the group consisting of di-phosphonic acids, tri-phosphonic acids, poly-phosphonic acids, and mixtures thereof.

42. The composition of claim 38, wherein at least one stopping compound has a molecular weight greater than about 100.

43. The composition of claim 38, wherein at least one stopping compound comprises an aminopropyl group.

44. The composition of claim 38, wherein at least one oxidizing agent is a peroxide, and wherein the system further comprises at least one passivation film forming agent comprising one or more 5-6 member heterocyclic nitrogen-containing rings.

Claims 45 & 46 are canceled.



47. The system of claim 16, wherein at least one polishing additive is selected from poly-carboxylic acids.
48. The system of claim 16, wherein at least one stopping compound is a polyetheramine.
49. The system of claim 16, wherein at least one oxidizing agent is a peroxide, and wherein the system further comprises at least one passivation film forming agent comprising one or more 5-6 member heterocyclic nitrogen-containing rings.
50. The system of claim 24, wherein at least one polishing additive is selected from poly-carboxylic acids.
51. The system of claim 1, wherein at least one polishing additive is a carboxylic acid and at least one stopping compound has a molecular weight of about 250 or more.
52. A system for polishing one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising (i) a liquid carrier, (ii) at least one oxidizing agent, (iii) at least one polishing additive that increases the rate at which the system polishes at least one layer of the substrate, (iv) at least one stopping compound with a polishing selectivity of the first metal layer:second layer of at least about 30:1, wherein the stopping compound is a cationically charged nitrogen containing compound selected from compounds comprising imines, amides, imides, and mixtures thereof, and (v) a polishing pad and/or an abrasive.

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53. The system of claim 52, wherein the liquid carrier is a nonaqueous solvent.
54. The system of claim 52, wherein the liquid carrier is water.
55. The system of claim 54, wherein the system comprises an abrasive suspended in the liquid carrier.
56. The system of claim 54, wherein the abrasive is fixed on the polishing pad.
57. The system of claim 54, wherein no abrasive is present in the system, and the polishing pad is a non-abrasive containing pad.
58. The system of claim 54, wherein at least one stopping compound is selected from compounds comprising oligomeric imines, oligomeric amides, oligomeric imides, polymeric imines, polymeric amides, polymeric imides, and mixtures thereof.
59. The system of claim 54, wherein at least one stopping compound is present in the liquid carrier in a concentration of about 5 wt.% or less.
60. The system of claim 59, wherein at least one stopping compound is present in the liquid carrier in a concentration of about 3 wt.% or less.
61. The system of claim 54, wherein at least one polishing additive is selected from the group consisting of a phosphorous-containing compound, a nitrogen-containing compound, a sulfur-containing compound, a carboxylic acid, and mixtures thereof.
62. The system of claim 54, wherein the system further comprises at least one polymeric compound that reduces the polishing rate of at least one layer associated with the substrate.
63. The system of claim 54, wherein the system further comprises at least one passivation film forming agent.

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64. The system of claim 54, wherein the abrasive is a metal oxide abrasive.

65. The system of claim 64, wherein the abrasive is selected from the group consisting of alumina, ceria, germania, silica, titania, zirconia, and coformed products thereof, and mixtures thereof.

66. The system of claim 65, wherein the abrasive is alumina.

67. A composition for polishing one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising (i) a liquid carrier, (ii) at least one oxidizing agent, (iii) at least one polishing additive that increases the rate at which the system polishes at least one layer of the substrate, (iv) at least one stopping compound with a polishing selectivity of the first metal layer:second layer of at least about 30:1, wherein the stopping compound is a cationically charged nitrogen containing compound selected from

compounds comprising imines, amides, imides, and mixtures thereof, to be used with a polishing pad and/or an abrasive.